WHAT IS CLAIMED IS:

1. An inhibitory peptide capable of inhibiting β pleated sheet formation in amyloid β-peptide said inhibitory peptide being a βsheet breaker peptide analog designed by chemical modification of a βsheet breaker peptide capable of inhibiting β pleated sheet formation in amyloid β-peptide.

2. The inhibitory peptide of claim 1 wherein said βsheet breaker peptide is a 5 residue Alzheimer inhibitor peptide iAβ5 (Leu-Pro-Phe-Phe-Asp SEQ ID NO: 1).

3. An inhibitory peptide capable of inhibiting conformational changes in prion PrP protein associated with amyloidosis, said inhibitory peptide being a βsheet breaker peptide analog designed by chemical modification of a βsheet breaker peptide capable inhibiting said conformational changes in prior PrP protein associated with amyloidosis.

4. The inhibitory peptide of claim 3 wherein said βsheet breaker peptide is 13 residue prion inhibitor peptide iPrP 13 (Asp Ala Pro Ala Ala Pro Ala Gly Pro Ala Val Pro Val, SEQ ID NO: 2).

5. The inhibitory peptide of claim 4 wherein said chemical modification is achieved by a process selected from the group consisting of: alteration of the N- and C- terminal ends of said prion inhibitor peptide iPrP13; replacing at least one residue of said prion inhibitor peptide iPrPl3with α-aminoisobuiric acid (Aib); methylation of the α carbon of at least one residue of said prion inhibitor peptide iPrP13; replacing at least one L-enantiomeric residue of said prion inhibitor peptide iPrP13 with a D-enantiomeric residue, forming head-to-tail cyclization of said

prion inhibitor peptide iPrP13, replacing amide bonds in said prion inhibitor peptide 1PrP13 with an amide bond surrogate; and combinations thereof.

6. The inhibitory peptide of claim 5 wherein said alteration of the N- and C-terminal ends of said prion inhibitor peptide iPrP13 is achieved by a process selected from acetylation, amidation, desamination, alcoholization and combinations thereof.

7. The compound of Claim 6 wherein said inhibitory peptide is selected from the group consisting of: ac-Asp Ala Pro Ala Ala Pro Ala Gly Pro Ala Val Pro Val-am, des-Asp Ala Pro Ala Ala Pro Ala Gly Pro Ala Val Pro Val-am, ac-Asp Ala Pro Ala Ala Pro Ala Gly Pro Ala Val Pro Val-alc, and des-Asp Ala Pro Ala Ala Pro Ala Gly Pro Ala Val Pro Val-alc.

8. The inhibitory peptide of claim 5 wherein said inhibitory peptide is selected from the group consisting of

Asp Ala Aib Ala Ala Aib Ala Gly Aib Ala Val Aib Val (SEQ ID NO: 4);

Asp Ala Pro Ala Ala Pro Ala Gly Pro Ala (Me)Val Pro Val;

Asp Ala Pro Ala Ala Pro Ala Gly Pro Ala Val Pro (Me)Val;

Asp Ala Pro Ala Ala Pro Ala Gly Pro Ala (Me)Val Pro (Me)Val;

asp ala pro ala ala pro ala gly pro ala val pro val;

asp Ala Pro Ala Ala Pro Ala Gly Pro Ala Val Pro val;

asp Ala Pro ala Ala Pro ala Gly Pro ala Val Pro val;

Aspψ[CH_2CH_2]Ala Proψ[CH_2CH_2]Ala Ala Proψ[CH_2CH_2]Ala Gly Proψ[CH_2CH_2]Ala ValProψ[CH_2CH_2]Val;

Aspψ[CH_2S]Ala Proψ[CH_2S]Ala Ala Proψ[CH_2S]Ala Gly Proψ[CH_2S]Ala Val Proψ[CH_2S]Val;

Ac-Asp Ala Proψ[CH_2CH_2]Ala Ala Proψ[CH_2CH_2]Ala Gly Proψ[CH_2CH_2]Ala Val Pro Val-Am;

asp Ala Proψ[CH_2CH_2]Ala Ala Proψ[CH_2CH_2]Ala Gly Proψ[CH_2CH_2]Ala Val Pro val;

Ac-Asp Ala Proψ[CH_2S]Ala Ala Proψ[CH_2S]Ala Gly Proψ[CH_2S]Ala Val Pro Val-Am;

asp Ala Proψ[CH_2S]Ala Ala Proψ[CH_2S]Ala Gly Proψ[CH_2S]Ala Val Pro val;

Ac-Asp Ala Aib Ala Ala Aib Ala Gly Aib Ala Val Pro Val-Am (SEQ ID NO: 5);

Ac-Asp Ala Proψ[CH_2CH_2]Ala Ala Proψ[CH_2CH_2]Ala Gly Proψ[CH_2CH_2]Ala Val Pro (Me)Val;

Ac-Asp Ala pro Ala Ala Proψ[CH_2CH_2]Ala Gly pro Ala Val Pro Val-Am;

asp Ala Proψ[CH_2CH_2]Ala Ala Proψ[CH_2CH_2]Ala Gly Proψ[CH_2CH_2]Ala Val Pro (Me)Val;

asp Ala Aib Ala Ala Proψ[CH_2CH_2]Ala Gly pro Ala Val Pro (Me)Val (SEQ ID NO: 6);

asp Ala Aib Ala Ala Proψ[CH_2S]Ala Gly pro Ala Val Pro (Me)Val;

asp Ala Proψ[CH_2S]Ala Ala Proψ[CH_2S]Ala Gly Proψ[CH_2S]Ala Val Pro (Me)Val;

Ac-Asp Ala Aib Ala Ala Proψ[CH_2CH_2]Ala Gly Aib Ala Val Pro (Me)Val (SEQ ID NO: 7);

Asp Ala pro Ala Ala Proψ[CH_2CH_2] Ala Gly pro Ala Val Pro Val

Asp Al Aib Ala Ala Proψ[CH_2CH_2] Ala Gly Aib Ala (Me) Val Pro Val Pro Val

Ac-Asp Ala Proψ[CH_2S]Ala ala Proψ[CH_2S]Ala gly Proψ[CH_2S]Ala (Me)Val Pro Val-Am;

Ac-Asp Ala Aib ala Ala Proψ[CH_2CH_2]Ala Gly pro Ala Val Pro (Me)Val;

asp Ala Aib Ala Ala Proψ[CH_2CH_2]Ala Gly Aib ala Val Pro Val-Am;

Ac-Asp Ala pro Ala Ala Proψ[CH_2CH_2]Ala gly pro Ala (Me)Val Pro Val-Am;

asp Ala Proψ[CH_2CH_2]Ala Ala Proψ[CH_2CH_2]Ala gly Proψ[CH_2CH2]Ala val Pro val;

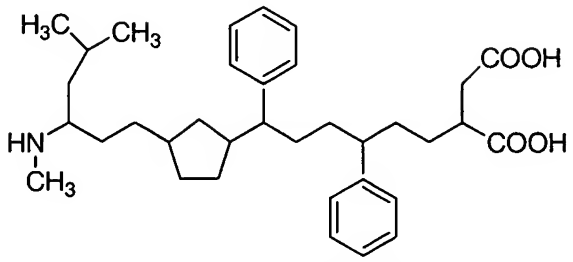
Ac-Asp Ala pro Ala ala Aib Ala gly pro Ala (Me)Val Pro Val-Am (SEQ ID NO: 8);

Asp Ala pro Ala Ala Proψ[CH_2CH2] Ala Gly pro Ala Val Pro Val;

Asp Ala Aib Ala Ala Proψ[CH_2CH_2] Ala Gly Aib Ala (Me) Val Pro Val; and,

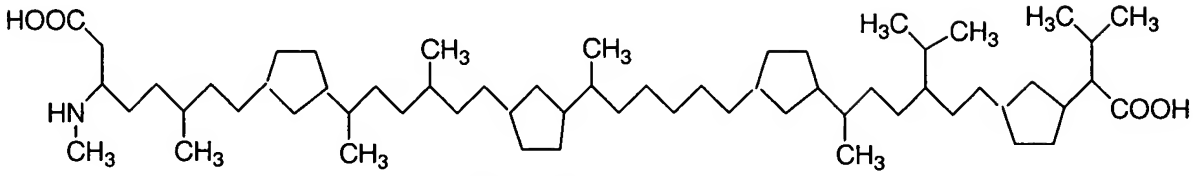
Asp Ala Pro Ala Ala Pro Ala Gly pro Ala Val Pro Val

9. A peptide mimetic with the following structure:



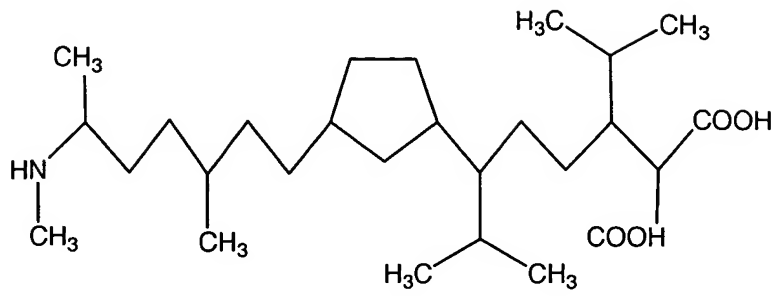
PMiAβ5

10. A peptide mimetic with the following structure:



PMiPrP13

11. A peptide mimetic with the following structure:

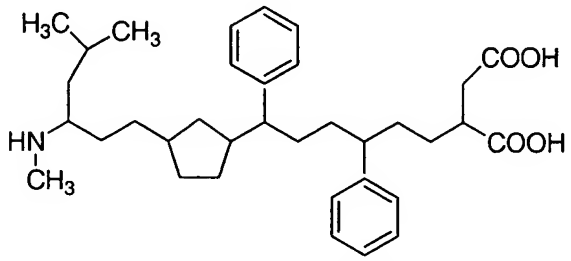


PMiPrP5

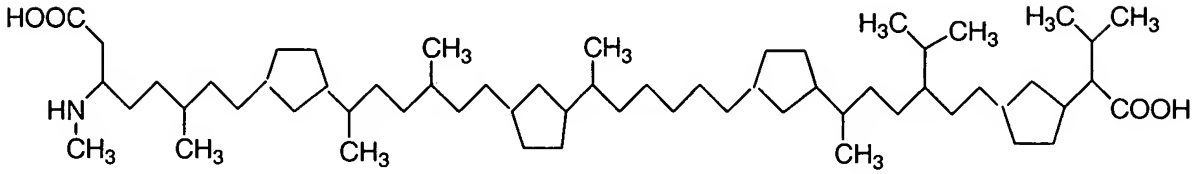
12. A method for reducing the formation of amyloid or amyloid like deposits involving abnormal folding into β sheet structure of amyloid β peptide or for reducing the amount of said amyloid β peptide which has already formed into a beta sheet structure comprising bringing into the presence of said amyloid β peptide either prior to or after the abnormal folding thereof into a β sheet structure, an effective amount of the peptide of claim 1.

13. A method for reducing the formation of amyloid or amyloid like deposits involving conformational changes in prion Pr protein or reducing the amount of said prion Pr protein which has already formed into amyloid or amyloid-like deposits comprising bringing into the presence of said peon Pr protein either prior to or after said conformational changes thereof into amyloid deposits an effective amount of the peptide of claim 3.

14. A method for reducing the formation of amyloid or amyloid like deposits by administration of a peptide mimetic selected from one of the group consisting of:

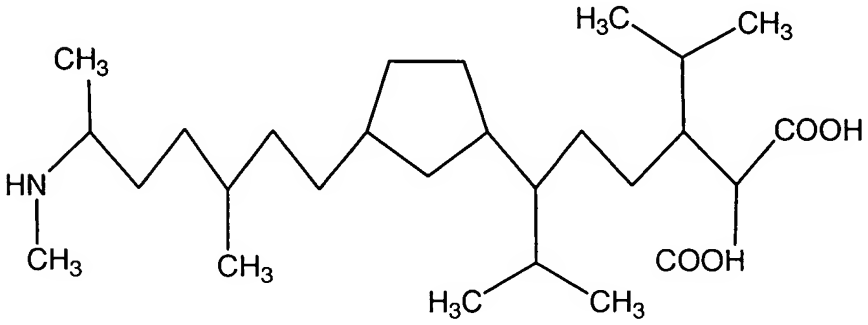


PMiAβ5,



PMiPrP13

and



PMiPrP5